UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,030	02/08/2001	Barry Billig	SD-204A	4437

7590 01/29/2007

RICHARD S. ROBERTS
ROBERTS & ROBERTS, LLP ATTORNEY AT LAW
P.O. BOX 484
PRINCETON, NJ 08542

EXAMINER	
RIDLEY, BASIA ANNA	
ART UNIT	**PAPER NUMBER**
1764	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/29/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/779,030	BILLIG ET AL.	
	Examiner	Art Unit	
	Basia Ridley	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 August 2005 and 16 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) *9-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 October 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *20060413, 20060710*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Invention I, claims 1-8, in the replies filed on 4 August 2005 and 16 October 2006 is acknowledged.

The traversal is on the ground(s) that the Examiner alleged that inventions of Groups I and II are distinct, but that absolutely no showing of such distinctness can be made. This is not found persuasive because in the restriction requirement the examiner has shown that the inventions are distinct because it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process, such as for another exothermic reaction which does not require introducing ethylene and oxygen into the reaction tubes.

The traversal is further on the ground(s) that 37 C.F.R. 1.141(b) mandates that allegedly different classes of invention may be included and examined in a single application provided that they are so linked as to form a single inventive concept. This is not found persuasive, because while 37 C.F.R. 1.141(b) is directed to restriction requirements involving claims directed to all three categories, product, process of making, and process of use, it is not germane to restriction requirement, as set forth in previous Office action, which involves claims directed to method and apparatus.

Claims 9-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

The requirement is still deemed proper and is therefore made FINAL.

Information Disclosure Statement

2. The following documents cited in the information disclosure statement on 10 July 2006 and crossed out by the examiner have been already submitted and considered as part of the information disclosure statement filed on 13 April 2006 : USP 4,101,287, USP 4,778,882, USP 4,882,444, USP 4,973,777, GB 1,103,441 and GB 898,374.

3. The information disclosure statement filed 13 April 2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the following document(s) referred to therein has/have not been considered as to the merits: FR 1,349,336.

4. The information disclosure statements filed 13 April 2006 and 10 July 2006 fail to comply with 37 CFR 1.98(a)(3) because they do not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. They have been placed in the application file, but the following document(s) referred to therein has/have not been considered as to the merits: FR 1,349,336 and FR 1,349,843.

Claim Rejections - 35 USC § 102

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1 and 3-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Langley (USP 4,847,393).

Regarding claims 1 and 3-5 Langley discloses a reactor and heat exchanger cooler assembly comprising:

- a tubular reactor (1) having a lower outlet head (drawing);
- reaction tubes (2) packed with catalyst within said reactor supported by an outlet end tube sheet (3);
- a tubular heat exchanger (11) having an upper end and a lower end and comprising lower end tube sheet (13) supporting tubes (12) within said exchanger (11);
- the upper end of said heat exchanger being integrally affixed around an opening of the reactor lower outlet head thus forming an integral structure with the reactor (drawing, while said upper end of the heat exchanger is not shown in the drawing, the heat exchanger of Langley, inherently, has an upper end which is integrally affixed, through the heat exchanger outer walls, heat exchanger lower outlet head and the pipe, around an opening of the reactor lower outlet head);
- said opening of the reactor lower outlet head (drawing) being for the passage of the reaction gas mixture from the reactor (1) to said heat exchanger (11) and through tubes (12) in said heat exchanger (11);
- wherein said reaction gases are cooled by indirect heat exchange with a heat exchange fluid introduced into said heat exchanger (C4/L6-10);
- wherein the reactor is packed with a supported silver catalyst (C3/L50-52).

Since the drawing in Langley only shows partial view of the reactor and the heat

exchanger, neither the upper inlet head of the reactor nor the inlet end tube sheet of the reactor nor the upper tube sheet of the heat exchanger are shown, but said elements are inherent in the reactor of Langley.

Regarding claims 4-5, while Langley does not show a fluid introduction and removal lines for the heat exchanger, said elements are inherent in the reactor of Langley.

The examiner notes that the term "integrally affixed" does not exclude two units connected by a pipe and other components, such as heat exchanger outer wall, to make a whole system.

7. Claims 1-2, 4-5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Robb et al. (USP 3,146,075).

Regarding claims 1-2, 4-5 and 7 Robb et al. discloses a reactor and heat exchanger cooler assembly comprising:

- a tubular reactor (10) having a lower outlet head (12);
- reaction tubes (15) packed with catalyst within said reactor (10) supported by an inlet end tube sheet (13) and an outlet end tube sheet (14);
- a tubular heat exchanger (20) having an upper end and a lower end (Fig. 1) and comprising upper and lower end tube sheets (23 and 24) supporting tubes (26) within said exchanger (20);
- the upper end of said heat exchanger (20) being integrally affixed around an opening of the reactor lower outlet head (12) thus forming an integral structure with the reactor (Fig. 1);
- said opening of the reactor lower outlet head (12) being for the passage of the reaction gases from the reactor (10) to said heat exchanger (20) and through tubes (26) in said heat exchanger (20);

- wherein said reaction gases are cooled by indirect heat exchange with a heat exchange fluid introduced into said heat exchanger (C2/L31-39 & C3/L3-59);

- wherein means are provided for cooling the tubes in both the reactor and the heat exchanger with water (Fig. 1 and C2/L31-39 & C3/L3-59);

- wherein the heat exchanger (20) comprises a fluid introduction line (31, 39);

- wherein the heat exchanger (20) comprises a fluid introduction line (32, 40);

- wherein the heat exchanger (20) is welded around the opening of the reactor (10) lower outlet head (12).

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 1, 3-5 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Langley (USP 4,847,393).

Alternatively, regarding claims 1, 3-5 and 7, if the term "integrally affixed" is taken to exclude any pipe in-between the heat exchanger and said reactor outlet head, so that the heat exchanger is welded around the opening of the reactor lower outlet head, it have been obvious to one of ordinary skill in the art at the time the invention was made to weld the heat exchanger around the opening of the reactor lower outlet head, since such modification would have involved making elements integral. Making elements integral is generally recognized as being within the level of ordinary skill in the art. *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965). Additional motivation to eliminate any elements between the reactor and the heat exchanger, i.e. connecting pipe, is provided by Langley, see C2/L61-63, which states that during

ethylene oxide production it is preferable that the cooling takes place immediately after passage through the reactor.

Regarding claim 8 Langley discloses all of the claim limitations as set forth above. While the reference does not disclose any specific dimensions of the heat exchanger it would have been obvious to one of ordinary skill in the art design said heat exchanger to have dimensions as recited in rejected claims, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955). Where the only difference between the prior art and the claims is a recitation of relative dimensions of the claimed device, and the device having the claimed dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device, *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert.denied, 469 U.S. 830, 225 USPQ 232 (1984).

10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Langley (USP 4,847,393), as applied to claim 1 above, in view of Ozero et al. (USP 4,921,681) or Sawada et al. (USP 5,292,904).

Regarding claim 2 Langley discloses all of the claim limitations as set forth above. Additionally the reference teaches that disclosed apparatus is used for production of ethylene oxide (abstract) and that a cooling fluid is used for cooling the tubes in both, the reactor and the heat exchanger (C3/L50-C4/L9), but the reference does not disclose any specific examples of cooling fluid which can be used. Both, Ozero et al. and Sawada et al. teach that reactors and heat exchangers used for production of ethylene oxide can be successfully cooled by water (see Ozero

et al. (C3/L6-15) or Sawada et al. (C4/L14-56)). Therefore, use of water as the cooling fluid in the reactor and heat exchanger of Langley would be obvious to one of ordinary skill in the art at the time of the invention, because it would amount to nothing more than a use of a known material for its intended use in a known environment to accomplish entirely expected result.

11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Langley (USP 4,847,393), as applied to claim 1 above, in view Sapoff (USP 5,114,685).

Regarding claim 6 Langley discloses all of the claim limitations as set forth above. While the reference does not disclose any specific dimensions of the reactor it would have been obvious to one of ordinary skill in the art design said reactor to have dimensions as recited in rejected claims, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955). Where the only difference between the prior art and the claims is a recitation of relative dimensions of the claimed device, and the device having the claimed dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device, *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984). Further the examiner notes that tubular reactors comprising at least 20 thousand reaction tubes wherein the reaction tubes have a length of from 15 feet to 40 feet, and an outside diameter of 1 inch to 2 inches were known in the art at the time of the invention, as evidenced by Sapoff (C3/L34-64).

12. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Langley (USP 4,847,393) in view of Robb et al. (USP 3,146,075).

Regarding claim 7, Langley discloses all of the claim limitations as set forth above, additionally the reference teaches that during ethylene oxide production it is preferable that the cooling takes place immediately after passage through the reactor (C2/L61-63), but the reference does not explicitly disclose the heat exchanger being welded around the opening of the reactor lower outlet head.

Robb et al. teaches an integral reactor and a heat exchanger wherein the heat exchanger (20) is welded around the opening of the reactor (10) lower outlet head (12) for the purpose of minimizing the time between reaction and cooling to avoid deleterious reactions (C1/L26-42).

It would have been obvious to one having ordinary skill in the art at the time of the invention to weld the heat exchanger of Langley around the opening of the reactor lower outlet head, as taught by Robb et al. for the purpose of minimizing the time between reaction and cooling to avoid deleterious reactions.

13. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Robb et al. (USP 3,146,075) in view of Groll et al. (USP 2,042,220) and Clark et al. (USP 2,383,711).

Regarding claim 3, Robb et al. discloses all of the claim limitations as set forth above. But while the reference discloses that a conventional suitable catalyst for production of acrolein are loaded into the rector tubes (C1/L10-25), the reference does not disclose said reactor being packed with a supported silver catalyst. Since supported silver catalysts were well known in the art at the time of the invention, where they were used for production of acrolein (as evidenced by Groll et al. (see P1/C2/L54-P2/C1/L13) and Clark et al. (see page 3), it would have been obvious to one having ordinary skill in the art at the time of the invention to use a silver supported catalyst in the assembly of Robb et al. for the production of acrolein, as doing so would amount

to nothing more than use of a known catalyst for its intended use in a known environment to accomplish entirely expected result.

14. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Robb et al. (USP 3,146,075) in view of Sapoff (USP 5,114,685).

Regarding claim 6 Robb et al. discloses all of the claim limitations as set forth above. While the reference does not disclose any specific dimensions of the reactor it would have been obvious to one of ordinary skill in the art design said reactor to have dimensions as recited in rejected claims, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955). Where the only difference between the prior art and the claims is a recitation of relative dimensions of the claimed device, and the device having the claimed dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device, *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984). Further the examiner notes that tubular reactors comprising at least 20 thousand reaction tubes wherein the reaction tubes have a length of from 15 feet to 40 feet, and an outside diameter of 1 inch to 2 inches were known in the art at the time of the invention, as evidenced by Sapoff (C3/L34-64).

15. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Robb et al. (USP 3,146,075).

Regarding claim 8 Robb et al. discloses all of the claim limitations as set forth above. While the reference does not disclose any specific dimensions of the heat exchanger it would

have been obvious to one of ordinary skill in the art design said heat exchanger to have dimensions as recited in rejected claims, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955). Where the only difference between the prior art and the claims is a recitation of relative dimensions of the claimed device, and the device having the claimed dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device, *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert.denied, 469 U.S. 830, 225 USPQ 232 (1984).

16. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Response to Arguments

17. Applicant's arguments filed on 4 August 2005 and 16 October 2006 have been fully considered but they are not persuasive.

The applicant argues that the instant invention is different from apparatus of Langley which requires a conduit to connect the reactor and a heat exchanger and in which said conduit connects the lower head of the reactor with the lower head of the heat exchanger . This is not

found persuasive, because the broad interpretation of term integrally affixed does not exclude two reactor components being connected into an integral whole regardless of number of other components in-between said two reactor components. The term "integrally affixed" does not exclude two units connected by a pipe and other components, such as heat exchanger outer wall, to make a whole system. Therefore since Langley in the disclosed drawing clearly shows a heat exchanger, which, inherently, has an upper end, said heat upper end of said heat exchanger being integrally affixed, through the connecting heat exchanger outer walls, heat exchanger lower outlet head and the pipe (10), around an opening of the reactor lower outlet head, the reference anticipates the invention recited in claims 1 and 3-5.

18. Applicant's arguments with respect to rejection of claim 7 as being anticipated by, or, in the alternative, as being obvious over Langley and with respect to rejection of claims 1, 3-5 and 8 as being obvious over Langley have been considered but are moot in view of the new ground(s) of rejection.

19. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., limitation of formation of aldehyde) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Further, the examiner notes that arguments directed to a manner of operating claimed apparatus are not germane to the rejection of said claimed apparatus, since neither the manner of operating a disclosed device nor material or article worked upon further limit an apparatus claim. Said limitations do not differentiate apparatus claims from prior art. See MPEP § 2114 and 2115.

Further, process limitations do not have patentable weight in an apparatus claim. See *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969) that states "Expressions relating the apparatus to contents thereof and to an intended operation are of no significance in determining patentability of the apparatus claim."

20. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Ozero et al. and Sawada et al. teach that reactors and heat exchangers used for production of ethylene oxide can be successfully cooled by water (see Ozero et al. (C3/L6-15) or Sawada et al. (C4/L14-56)). Therefore, use of water as the cooling fluid in the reactor and heat exchanger of Langley would be obvious to one of ordinary skill in the art at the time of the invention, because it would amount to nothing more than a use of a known material for its intended use in a known environment to accomplish entirely expected result. Further, the examiner notes that arguments directed to a manner of operating claimed apparatus are not germane to the rejection of said claimed apparatus, since neither the manner of operating a disclosed device nor material or article worked upon further limit an apparatus claim. Said limitations do not differentiate apparatus claims from prior art. See MPEP § 2114 and 2115. Further, process limitations do not have patentable weight in an apparatus claim. See *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969) that states "Expressions relating the apparatus to

contents thereof and to an intended operation are of no significance in determining patentability of the apparatus claim."

Conclusion

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

22. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 13 April 2006 and 10 July 2006 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Basia Ridley, whose telephone number is (571) 272-1453.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola, can be reached on (571) 272-1444.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Technical Center 1700 General Information Telephone No. is (571) 272-1700. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Questions on access to the Private PAIR system should be directed to the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

Basia Ridley
Primary Examiner
Art Unit 1764

BR
January 22, 2007